

VIRGINIA WILDLIFE

JANUARY 1987

ONE DOLLAR



Flying Home

Special Photo Issue



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VIRGINIA WILDLIFE

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources
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January 1987

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Text by Virginia Shepherd and Jerry Via

In this second annual photo issue, *Virginia Wildlife* looks at what makes Virginia a place worth flying home to for birds. Although we've divided the state up into habitats, it's merely a tool. It doesn't profess to tell the whole story—it's merely a jumping off point to understanding. Learn the habitats, learn the animals that frequent those areas, and then let them surprise and delight you with their remarkable freedom of movement and flexibility.

I hope when you're finished with this look at these birds that call Virginia home, you'll realize that nothing's for certain. I hope it will make you take a second look at those areas you thought were pretty worthless, and give animals you thought were rather dumb and instinctive a little credit for invention. Maybe when you're finished, you'll look at a hawk or a grouse or a whistling swan and say to yourself: "You know, he's doing a whole lot more than I don't know about." And maybe you'll feel a bit humbled by it all.

Cover: Canada geese (*Branta canadensis*) on the Rappahannock River; by Bill Portlock
Opposite: Bald eagle (*Haliaeetus leucocephalus*); by Gregory Scott



Coast

You won't hear them whistling overhead in the middle of the night on the West Coast. You can't walk outside on a cool fall night in San Diego and hope to be silenced by the wings and the calling and the wind.

Virginians don't know how lucky they are. Here in Virginia we are smack dab in the middle of the Atlantic Flyway, in the middle of a freeway system leading birds down from the Arctic, down from Canada, and down from all points north and northwest, and we are able to witness events that leave us awed. We are able to gawk at the thousands covering the sky and squawking into the wet land beyond the dunes, and we can pull out our boats and our decoys and hide ourselves in blinds on icy mornings, waiting for the geese and ducks to fly.

You can't do that everywhere. In fact, you can't do that most everywhere else. But these days, waterfowl claim a winter home in Virginia. They find our waters and our coasts quite comfortable in the winter these days, where not too long ago, they would merely use our beaches and adjoining marshes for resting places, temporary homes to visit before flying down to North Carolina, to Currituck Sound, and points south as far as Florida for the winter.

Now, many of them stop. They've shortstopped, as duck hunters like to say, because, since the mid-50's, things have become more favorable in these parts and farther north. There are important wildlife refuges here in Back Bay and on the Eastern Shore at Assateague and the Delmarva Peninsula here and in Delaware and Maryland. And there is less and less of this kind of habitat elsewhere. Word has it waterfowl are even making winter homes in New York these days.

Fortunately for birds, they can move to better homes with the single flap of a wing. Not so for less fortunate creatures like the spotted salamander or landlocked stripers. As wetlands are drained, woodlands cleared and fields are plowed, birds simply fluff feathers and take to the air—in the hopes that there are greener pastures or cleaner waters on the other side of that ridge.

Course, that may not be so, either. But, the adaptation mechanism is in place to deal with such changes. Migrations are just a vivid large-scale example of this ability. Winter feeding isn't too good up in the Arctic, so the geese and the swans and the ducks and all the rest of the sensible waterfowl head out for better feeding grounds. And the hawks, falcons, owls and warblers (to name just a few) follow them south along that Atlantic freeway as winter changes their summer homes into something that's less than desirable for survival.

There are other birds, however, that find no need to migrate from our coasts or down our coasts. And there are other birds that spend their lives on the ocean, and call a firm beach a good resting place. And there are birds that scan deserted beaches in the spring, looking for nesting places. Problem is, those places are getting mighty scarce for beach lovers these days. After all, the coast is not a particularly bad place to take up residence. We humans find it remarkably pleasing in the spring, summer and early fall. Colonial nesting shorebirds, on the other hand, tend to feel rather cramped by our beach umbrellas and suntan lotion. We have taken up most of the prime nesting spots with our summer cottages and beach towels and the marauding dogs, cats, skunks and raccoons that trail us and put eggs and young in rather deadly predicaments.

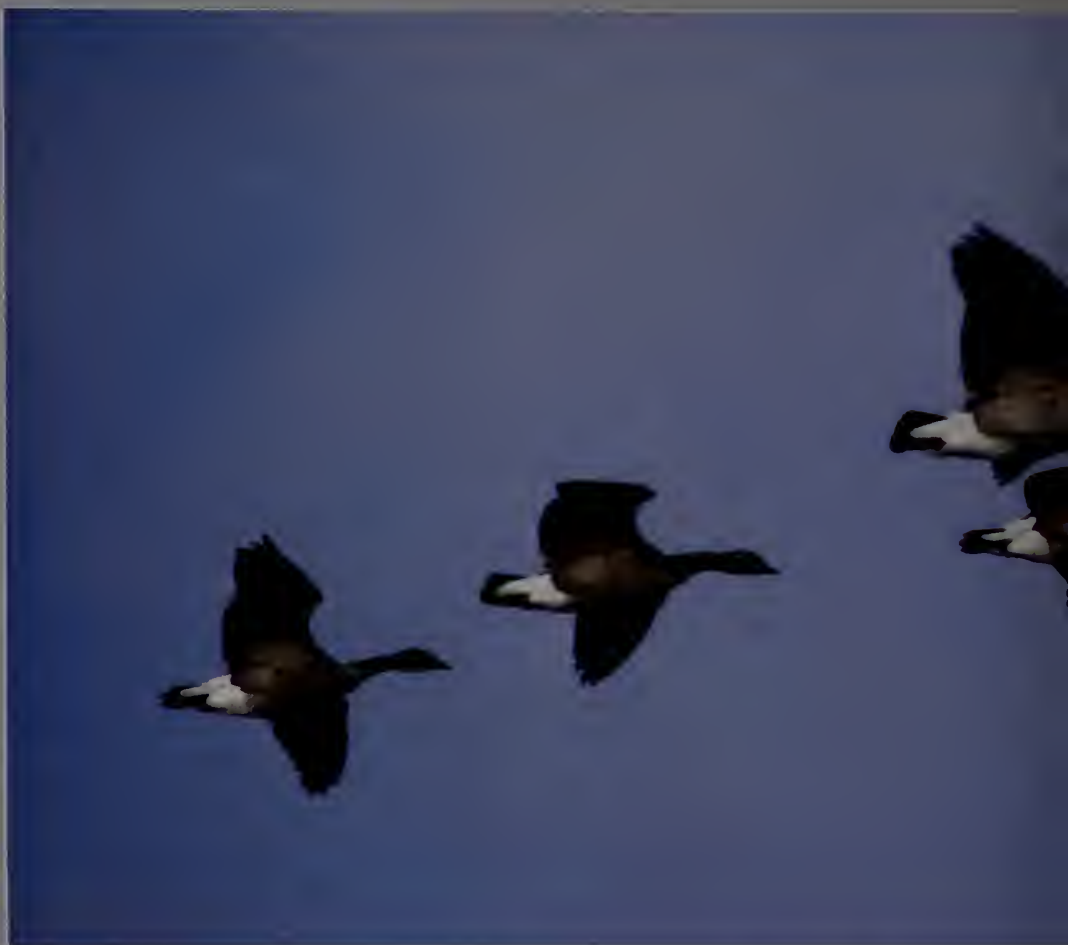
So, our beach nesting birds migrate to quieter places. They make a home on those isolated refuges, the barrier islands and the protected Assateague and Back Bay areas, but even there they must adapt to changes. These mercurial islands have an exasperating habit of changing their composition each year, so that last year's nesting site may very well be under water this year. The shorelines are constantly changing, the winter storms destroy old cover, and rearrange last year's dunes and marshes. But even as the old disappears, new cover appears as a suitable nesting site, and newly exposed shells look good for nesting material. It's all a matter of change.—V.T.S.

A fragile rim of sand is all that protects the marshes and dry ground from the deep blue sea. These beaches are ever changing under the forces of the wind and the sea. While they may be reshaped and moved by these great forces, some characteristics are changeless. Open areas of dry sand, warm temperatures, abundant sunlight, and ocean waves come to mind when one visualizes a beach. While these conditions are seemingly ideal for humans, they make life very difficult for breeding birds, and except for hungry gulls, few birds use public beaches. Yet along more remote shorelines, sandy beaches are nesting areas for thousands of gulls, terns and beach nesting shorebirds in Virginia.

Why do so many birds nest on these broad sandy beaches? For one thing, the adjacent ocean provides abundant, readily obtained food, and parent birds do not have to carry food long distances to hungry young. The isolated beaches also offer a relatively safe haven from mammalian ground predators, such as raccoons and foxes.

Few hawks and owls hunt these areas and the role of predator is assumed by the gulls, such as the great black-backed gull. Typically scavengers, gulls will make frequent raids into nesting seabird colonies for the abundant eggs and young.

To survive this predation, seabirds have adopted a number of survival strategies. While the adults of black skimmers and terns are often boldly marked with black and white, the young are masters of disguise and blend in with their sandy surroundings. Flocks of terns and skimmers also nest in large mixed colonies in an attempt to ward off hunting gulls.



Canada geese (*Branta canadensis*); by Steve Maslowski



Least tern (*Sterna antillarum*) nest; by Bill Akers



Great black-backed gull and young (Larus marinus); by Gary Gaston

In the past, large numbers of nesting terns were slaughtered for their feathers, and sold to the millinery trade in New York for the mere price of ten cents each. Today, populations of these birds are recovering from this destruction, but they face new problems, the most severe of which is not the harsh environment of hungry gulls, but the development of shorelines.—J.V.

"Many of our feathered voyagers make single flights of 500 to 700 miles, and migrations of over 4,000 miles. The annual pilgrimage of such old friends as the bobolink, purple martin, scarlet tanager, cliff and barn swallow, night hawks and black poll warbler all exceed 4,000 miles in both spring and fall. It is rather humbling to think what brave and self-sufficient travelers some of our tiny feathered friends are."—*Game and Fish Conservation*, January-February, 1923.



Royal tern (Sterna maxima) colony on Metomkin Island, by Jerry Via



Short-billed dowitcher (Limnodromus griseus);
by Lynda Richardson





Waterways

Usually, it is the fishermen who know our water-courses best. They know the bends in the streams, the rocks to avoid with a canoe, and the good holes hiding bass. They are the ones fighting to get the dams breached and the water cleaned up.

But the birds know the rivers, the bays, the lakes, and the beaver ponds better. The swallows dip and skim the surfaces for the same hatches the trout rise for. The ospreys and the eagles return each year to the same nests to raise young and fish the wide rivers. The fine line between the water covered land and the wetland merges here for so many birds, as they use the big water to fish or feed in, and the quiet holding areas, the still, hidden areas for cover and nesting.

And there are some of us who know the water in the cold drizzle of winter, in the fog, silently paddling underneath dark limbs, trying hard to hug the muddy bank with the muskrat holes dug out in them, trying hard not to be noticed by the dark form 100 yards down; uncertain whether it's a black stump, a watchful woodie or a migrating teal resting on the water and treading easily in the slow current. Or, we know the big water, that freezes up here in January or even late December some years; cold water that is fog-covered, with flapping wings and whistling calls, and hand-built blinds that are cold but watertight.

No wonder some birds make a living out there. Only fools would pursue them in the dead of winter when most of them make their homes there. They didn't reckon on there being quite so many duck hunting fools about. But some may be surprised that these same shivering fools know something about water, too, and that they thought long and hard about the connection between waterways and birds years before most of us were born. These men were even foolish enough to want to pay someone to maintain those water areas for birds. In the May-June 1924 issue of the *Virginia Game and Fish Conservationist*, an article, reprinted from the *Times-Dispatch* read in part:

"Pending in Congress is a bill that should awaken the interest of every sportsman. It is the measure providing (a) places of refuge for migratory birds where they may feed and breed in security from the huntsman's gun; and (b) ground where this sort of game may furnish sport under proper regulations . . . Purchase of preserve areas, as proposed in the pending measure, will cost the taxpayer nothing. The sportsman himself—the man who will derive the benefits—will pay all the costs. Necessary funds will be secured through the exaction of a \$1.00 license tax, required of all hunters who wish to avail themselves of the privilege of shooting in season on the lakes and marshes acquired under the terms of the law . . . Indiscriminate pot-hunting and the drainage of areas which are the natural feeding places of migratory birds are a serious menace to the wildlife of the country . . . Sportsmen, all of whom are, of course, interested in game conservation, should lose no time in making their wishes in the matter known."

Although this was five years before the Migratory Bird Conservation Act passed and 10 years before the Duck Stamp Act was in place, it just shows you that sometimes Virginia fools can be pretty brainy when it comes to something they love.—V.T.S.

As fast moving mountain streams flow into rivers which feed into tidal estuaries, the chemistry of the water changes from the clear, cold spring water to a mixture of brine and freshwater. The increase in salinity results in a different assortment of plant life, fishes and the accompanying bird life to feed on these organisms.

The sentinel of the waterways is the osprey which frequently perches in trees high over the water. It often builds gigantic nests in the tops of cypress, pine trees or on man-made structures such as boat docks and channel markers along open areas of water. Its prowess as a fisherman has long been admired by anglers and has earned it the name fish hawk. Even in its absence, during the months of winter, its nest serves as a reminder of its presence and a promise of its return in the spring.

On a bitter winter day, it is hard to imagine the attraction of the rivers and bays to birds until you look under the surface. There, a banquet of aquatic plants, snails, other invertebrates and fish await the hungry birds.

Each waterbird has a different adaptation and behavior to allow them to use this rich resource. Some species such as mallards, pintails and wood ducks paddle close to the surface, feeding only in shallow areas where they can reach for food by tipping those tail feathers up. Others, such as the pied-billed grebe, canvas-back, redhead and scaup, dive to great depths to obtain food. Loons, cormorants and mergansers may swim great distances under water to chase an elusive fish.

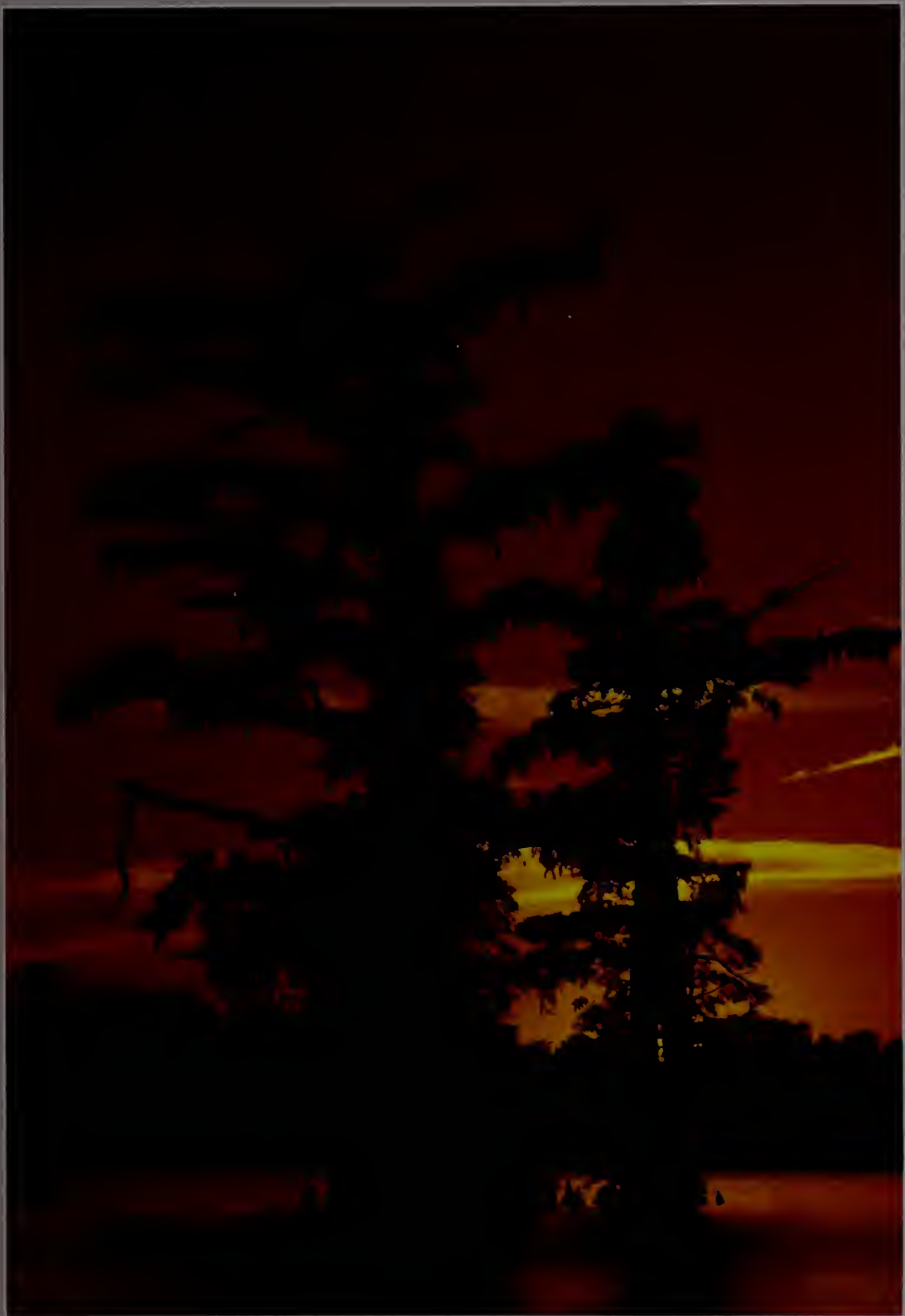
In addition, each type of waterfowl has a specially adapted beak for selecting just the right item of food. Some beaks act as strainers to filter out aquatic plants while other beaks are specialized for crushing snails. The strong beak of the Canada goose is well modi-



Female osprey (Pandion haliaetus) in flight, by Charles W. Schwartz

Bald eagle (Haliaeetus leucocephalus); by Gilbert Lopez-Espina





Osprey (Pandion haliaetus) nest at sunset on Chickahominy River; by Lynda Richardson

fied for the tearing of grass and tender plants for a grazing lifestyle.

Few waterfowl nest in Virginia, but one exception is the wood duck. This beautiful little duck nests in old woodpecker cavities or in appropriately designed wood duck boxes. When the young hatch, the female will fly out of the nest and call to the young. The young duckling will peer out of the nest hole for a moment, then leap to the ground to follow its mother. Sometimes the nest is over water, but when it is not, the young bounce several times and waddle after their mother, seemingly unaffected by the skydive.

The open water provides relatively safe protection from predators since few predators will take a bird off of the water.

In addition, Virginia's waterways of streams, rivers, lakes and bays, are among the easiest places to observe birds. The lack of obstructions allow the observer to scan great distances for bird life. Many species of water birds, ducks and geese ride the surface swells at the mercy of the cold, wind, water and rain. Despite the harsh conditions, waterfowl are warmly secured from the elements with a warm insulating layer of down, and a thick lining of fat inside their skin.—J.V.



Swamp sparrow (*Melospiza georgiana*) with young; by R.C. Simpson



Mallards (Anas platyrhynchos); by Lynda Richardson

Female mallard (Anas platyrhynchos) on nest; by Lynda Richardson



"The main hope now seen for perpetuating our fine game birds for the enjoyment of posterity is in halting the rapid progress of drainage of the freshwater marshes and lakes which are the natural feeding and breeding grounds of wild life, and may be more useful for such purposes than for agricultural uses."—*Game and Fish Commission*, 1924, May-June, 1924.



Pied-billed grebe (Podilymbus podiceps) with eggs and young, by Gregory Scott





Canada geese (Branta canadensis); by Charles W. Schwartz



Young wood duck (Aix sponsa) peering out of nest; by Steve Maslowski



Flying Home

Wetlands

“T he Sora is a delicious bird, and a very mysterious one. It appears in the marshes suddenly in great numbers from no one knows where and disappears mysteriously in a night, after the first frost. It fattens very quickly on the wild oats which flourish in marshes and apparently flies with great difficulty after it has become fat. Its sudden disappearance under these conditions is, therefore, something of a mystery and helps to perpetuate the theory that Sora turn to frogs. This may be true after all. Through mysterious processes the hideous worm is transformed into the marvelous butterfly, then why shouldn't the Sora turn into a frog?”

—*Tidewater Democrat*, Sept-Oct 1922
Game and Fish Conservationist

It makes sense the sora rail should find a home in a marsh, in a wet land. Because out there in Virginia's wetlands, anything can happen. Never can tell what might pop out of them. A friend recently told me he walked down to a marsh this fall and nearly fell over when a flock of turkeys took off from the middle of the cattails.

Usually, you don't see much in a marsh from the high ground. That's what adds to the mystery. Too many places to hide. And deceptive places, you know. So easy for a duck to slide out and paddle through some reeds, or a deer to scoot between vegetation, invisible. Plus, the stuff's hard to get through. Ever try to slosh your way through a marsh? You've got to brave the uncertainty of soft ground. Ol' frogs hide and croak without being seen, turtles slip off rocks and hide underwater. Spooky.

But a marsh is so much more than soggy earth. Try categorizing a wetland. You've got inundated water, then you've got some high and dry spots. You might have a beach, a dune, a small woodlot, even. Exasperating, but the truth is that all habitats defy our desire to rigidly classify them. They all flow into one another, intermix, so the creatures that live there refuse to be limited to a well-defined area. Thus, when you say that you've found a “wetlands” species, you have merely noted that a species is known to frequent the joint. Doesn't mean it doesn't make the rounds to other areas. As the most brilliant ecologist I know says: “When I see a species, I ask myself, ‘What is it doing here? What does it find here that makes the living good?’ ” My friend looks at habitat in terms of what it gives a species, not in how it restricts the animal. When you think about it, it makes sense. If a bird or any other critter was rigidly adapted to a certain set of biological conditions, when “somethin' turrible” happened, like an unexpected snowstorm, a drought that dried up a puddle or a pond, a flood or a fire, the animal, indeed the entire population in the area, would be doomed. Of course, birds are blessed with a winged getaway, but even birds can be so rigidly adapted to a set of circumstances that they seem to end up endangering themselves. Look at the red-cockaded woodpecker—dependent it seems on a certain age pine tree; nothing else will do. When that pine forest no longer exists, the population perishes. On the other hand, look at the adaptations of the song sparrow (*Melospiza melodia*). Biologists have discovered that one subspecies of the group prefers a salt marsh environment, another a brushy meadow, and still another a desert habitat. Seems there's no real danger of losing the song sparrow. Within the limits of its physical adaptations, if it be a curved beak or webbed feet, a species that can adapt to a variety of environments to nest in, to breed in, to feed and rest in, has probably got the best chance to make it, don't you think?—V.T.S.

Virginia's wetlands are considered by many people to be Virginia's wastelands. Yet, these areas with their constant water supply and abundant sunlight are among the most productive plant communities in the world.

Wooded swamps such as the Great Dismal Swamp are flooded forests and have many characteristics of upland forests. The bird life in these swamps is diverse and contains species not found in the drier areas. These swamps provide secluded nesting areas for the large herons, including the great blue heron and the great egret, which build their bulky nests in the tree tops.

Freshwater marshes of cattails and grasses also have a wide variety of bird life. Many birds such as the herons feed in both saltwater and freshwater marshes, but some species such as the common gallinule, and its close relative the American coot have a decided preference for freshwater ponds and marshes. The sora rail walks easily on long legs through the dense grasses. Its flattened body allows it to squeeze between the narrow spaces among the blades of grass, a characteristic which led to the phrase "skinny as a rail." Around the margins of the freshwater wetlands, dense clumps of alders and other shrubs provide a protected feeding area for the swamp sparrow, a winter visitor, and many other birds coming to water to drink.

Coastal marshes are actually wet grasslands, teeming with life. Numerous streams and channels wind silently like giant serpents through the waving grass. Life here is not so much oriented on the day and night as it is the flux of the lunar tide. With the incoming tide, new organisms are brought into the marsh to feed or lay their eggs. As the tide recedes, they are flushed back into the deeper waters.

Accordingly, birds feed at



Great blue heron (Ardea herodias); by Curtis Badger

Song sparrow (Melospiza melodia); by Mark Wallner





Mallard (Anas platyrhynchos); by Lynda Richardson



Wood duck (Aix sponsa); by Charles W. Schwartz

the changing tide when their food will be most abundant. The elongated bodies of the herons and egrets melt into the long blades of grass. Some herons such as the American bittern rarely leave the marsh grass and hunt for food in the dense tangles. Others such as the great blue heron and great egret often stand, as if frozen in time, waiting for prey to make itself visible in the shallow marsh pools. Greenbacked herons may perch on overhanging vegetation to wait for an unsuspecting fish to pass.

In these vast grasslands, even though birds may be well hidden by the marsh grass, there is a year-round chorus of birds. In the spring, it is the peeps and chirps of thousands of migrating shorebirds such as the short-billed dowitcher, which feeds on the exposed mudflats at low tide. Summer brings the incessant calling of the willet, clacking of the clapper rail, and the raucous chorus of laughing gulls. Fall and winter are the seasons of the ducks and geese which come to the fertile marshes for food and cover. Not only marsh birds may be found in the marshes. Shorebirds and other species of beach birds may often retreat to the relative safety of the marshes when a hurricane or severe northeast storm drive them from the open sandy shores.—J. V.



Back Bay National Wildlife Refuge in winter; by Chris Pague

Osprey (Pandion haliaetus); by Chris Pague





American bittern (Botaurus lentiginosus); by William Lea



"Waterfowl cannot exist without lakes and marsh lands."—*The Virginia Conservationist*, September 1921.



Tricolored heron (*Egretta tricolor*); by William Lea



Mallard (*Anas platyrhynchos*), by Steve Maslowski

Sora (*Porzana carolina*); by Karl Maslowski





Meadows

Insects and berries and seeds. Universal bird food. Best place to find it? Why, an impenetrable piece of open space, of course, with lots of prickly berry bushes and seedbearing thickets and grasshoppers jumping out at you at every step.

It is in the fields and the meadows that you can see the real changes happen. Quick. Just watch a burned or cleared area for a few years. Watch how the numbers of a certain bird changes, or the entire species composition of an area changes in time. It brings home the point that all kinds of animals use the same area at different times of the year and in different years.

In a young cutover, an area may be used for food by quail and turkey, and as a hunting ground for red-tailed hawks and great horned owls. As the brush increases in a few years, it will become an ideal hiding place. Later still, as it becomes older and the saplings grow, nesting becomes a possibility for birds preferring a tree house hideout.

You come to realize that birds are supreme opportunists. They didn't evolve from lizards into light, hollow-boned flying creatures for nothing, you know. They've learned how to cope, you might say. The interesting thing is that some "nontypical" field species seem to be making themselves right at home in fields. Look at the red-winged blackbird. Used to be a "typical" marsh species. You hardly ever found him anywhere except perched up on a cattail somewhere. Now, the bird is common in fields and open places.

And, what about "typical" field species that seem to be pulling up stakes and moving on to a change of scenery? Look at the mourning dove in your backyard picking at your bird feeder and bobbing along in your gravel driveway, about to get pounced on by your cat. Surely, it could think of a more honorable occupation than that. It ought to be up on that telephone wire above a corn field, like any other self-respecting bird of its kind.

And the bobwhite quail. Every quail hunter sadly knows how many of its numbers have deserted the gentlemanly life of a field-hedgerow bird for the unprincipled wilds of a forest interspersed with unruly thickets. The bird seems to have responded to change, and in this instance, to *our* change. We've made our farms larger, our hedgerows and brushy borders smaller, we've added pesticides to our fields, and out of all of that, the quail, we suppose, decided to move. on. The critter seems to be making a home in the woods. Gerald Almy, in a recent article in *Sports Afield*, pronounced these new rebellious individuals "miniature grouse." And indeed, he may be right.

All this leads me to believe that survival is a pretty complex thing. Thus, when you say you're going to save a population by preserving that last bit of land you saw them feeding in last year, I'd be careful. Might be you should look at your species a bit more closely, and make sure you're securing all its needs. Just may be that it needs a little water in a hole you hadn't thought about, a little field to find lunch in, and a nice big tree down the road for a nest. Remember, nature ain't simple.—V.T.S.

There are certainly more birds nesting in fields today than there were prior to colonial times. As woodlands were cleared for farming and grazing, more land was made available to birds preferring these areas. Simple grasslands for pasture and farms with modern agriculture have few species except for the eastern meadowlark, with its bright yellow breast and the grasshopper sparrow.

Instead, the greatest diversity of birds may be found in the weedy fields of abandoned farmland and ungrazed pastures. Unattended, these fields are quickly invaded with many weeds and small trees over the course of several years. As the variety of plants increases, so does the variety of birds. Weeds grow fast and produce many seeds which serve as an important food source for birds. For example, poison ivy is an important winter food source because of its oily berries. In turn, birds do poison ivy a favor by spreading its seeds in their droppings to new fields.

Not only do the invading weeds provide food, but they also provide valuable cover. Tangled mats of blackberry and small shrubs offer a hiding place from predators and protection from the elements for many birds such as the song sparrow. During spring and summer, birds also use these vines and bushes as singing perches to proclaim their territories. With each new invading plant, comes a host of insects and different birds to eat them. Abandoned fields left for about five years provide the perfect habitat for the eastern bluebird, which likes the variety of plant fruits and insects taken in tall grass and weeds. Barn swallows streak over the fields catching insects on the wing.



American kestrel (*Falco sparverius*); by William Lea





Bobwhite quail (Colinus virginianus); by Nell Bolen



Bobwhite quail (Colinus virginianus) nest, by Karl Maslowski

Many birds living in fields lack the showy colors of the forest and have instead a rich earthy mantle. In particular, different species of sparrows may feed in a mixed flock, displaying an endless variety of browns, blotches and streaks to baffled birdwatchers. These coloration patterns allow them to elude the watchful eye of hawks and other predators, and group feedings give the flocks more eyes to look for an oncoming hawk. Bobwhite quail with their rich cinnamon coat also visit these areas for the abundant seeds and cover.

Raptors hunt these areas. The red-tailed hawk, Virginia's most common raptor, soars over fields in search of rabbits and rodents, while the tiny American kestrel or sparrow hawk, may pounce on a running mouse or snatch a small bird from midair.

Weed covered fields do not last very long in the natural order of things. They are typically "improved" by man through clearing and burning and returned to agricultural land. If left abandoned, natural succession gradually changes them into shrubby forests. As the field becomes more choked with shrubs, pines or tree seedlings, the composition of the bird community changes too. Birds such as the chipping sparrow and the brown thrasher, considered transition species between field and forest, now find adequate nesting thickets. The white-eyed vireo hunts these tangles for insects hiding underneath the leaves. Quail and meadowlarks disappear, and a host of sparrows is replaced by other birds better suited to new habitats of woodlands and evergreens.—J. V.



Mourning dove (Zenaida macroura); by Karl Maslowski

Eastern bluebird (Sialia sialis); by Karl Maslowski





Red-tailed hawk (Buteo jamaicensis); by Charles W. Schwartz



Woodlands

I sometimes get discouraged in the dead of winter when I go into the woods. Occasionally I'll hear something, a rustle in the leaves or a crow calling, but I hardly ever see anything until it hits the sky or the treetops. I almost *never* see anything when I stay on the trail, unless it's a junco spooked off the ground or a chickadee miffed at me passing under its tree. And the only time that I *really* see anything is when I am half-frozen on a stand, hardly able to think because I am so cold and hardly able to see because the light is fading so fast. I guess that's why it takes so long to learn things about the woods and the critters that live in them. Nature is so darn secretive and full of mystery.

The chestnut blight wiped out the major species of our hardwood forests, and everyone was certain that those animals that lived there would come crashing down with the great chestnut community. It made logical sense that all was doomed, but it surprised the heck out of everyone that it didn't happen that way. The birds came back to the new oak-hickory community. The wood thrush, least flycatcher, black-throated blue warbler, ovenbird, Canada warbler, eastern phoebe and wild turkey. And other animals we probably didn't even know were there survived. They adapted.

Here in Virginia, we're right in the middle, geographically and ecologically speaking, of the dividing line between northern and southern species. We've got southern species at the northern edge of their ranges, and northern species at the southern edges. Some might say that we've got the dregs of the populations. We've got those small, pitiful numbers of birds and other animals that have been pushed to the edges of their range because they aren't physically and behaviorally fit enough to compete successfully in the optimum part of their range, right? Well, people now are beginning to question that theory. If an animal is forced to disperse into new "marginal" areas because of population pressures, might not that critter just be a pioneer, "testing the water," so to speak, or the hardiness of a species? After all, those populations that can survive in "less than desirable" habitat may just be showing some remarkably resourceful adaptability. And they may be the forerunners of those species that have developed certain techniques for dealing with bizarre circumstances, like making a home in an oak-hickory forest without chestnut trees.

I think that we often tend to look at birds like we do our acquaintances. If we know a lawyer, for example, we have preconceived ideas about what he should do, how he should act, and what he should look like. The lawyer should be properly stuffy and well-mannered, clad in a Brooks Brothers suit and wire-rimmed glasses. No blue jeans, beards or flannel shirts or chewing tobacco. Leave that to the foresters or wildlife biologists. If one happened to see that same lawyer picking up trash at a zoo or spending his summers surfing down at Hatteras, one would sigh and say, "Ah, he must have gone astray, poor man. Must not have had the brains to make it."

And so it is with birds. Ornithologists shake their heads in dismay when they realize that the rebellious woodcock, a classified shorebird, does acrobatic stunts in the romantic twilight of Blue Ridge evenings in an open field surrounded by hardwoods, while its relatives perform the same nuptial flights of fancy on a cutover marsh on Chincoteague. They sniff in disgust when told that the noble broadwing hawk dines on cicadas while in South America during the winter. All would be horrified to learn that the swift and deadly peregrine falcon has been known to land several feet away from its prey and stalk the animal, wings hunched in a wicked-looking manner. I have it on the best authority, but most would probably not believe it. They cherish their illusions about the proper behavior of winged animals.

Oh, to be one of those deviant creatures.—V.T.S.

Virginia's deciduous woodlands are a mere shadow of what they once were. Gone are the vast forests of American chestnut, American beech and the massive hickories and oaks. It is hard to imagine what these forests must have been like until you visit a protected virgin stand of timber. The effect is like being in a giant cathedral with balconies of vegetation at different levels of the forest.

Despite their diminutive area, present deciduous forests offer a great diversity of bird life, due to the variety of the trees and the structural complexity of the forest. Forest plant life offers a wide diet of fruits, seed and insects.

In structure, the deciduous woodland may be likened to a multi-storied apartment building, with different residents on each level. There are ground floor dwellers such as the ruffed grouse which feeds on the tender buds of plants and the woodcock which probes the moist soil for earthworms. The ovenbird, a small insect-eating warbler, would be considered a basement dweller, as it builds its dome-shaped nest under the forest leaf litter.

Other birds live at different levels of the forest depending on their diets. At various levels of the forest, many species of birds nest or roost in cavities. This includes the woodpeckers such as the downy and the red-bellied which design and excavate cavities to suit their needs. When they abandon these cavities, other residents such as the Carolina chickadee or a flying squirrel may quickly occupy the empty dwellings. The bills of woodpeckers allow each species to look for wood-boring insects in different places. The short bill of the downy woodpecker is used for scaling off bark to find insects close to the surface of the tree while the longer bill of the red-bellied woodpecker probes deep into the tree trunk to remove insects.



American woodcock (*Scolopax minor*) with young; by Charles W. Schwartz

Cedar waxwing (*Bombycilla cedrorum*); by Vinyard Brothers





White-eyed vireo (Vireo griseus) with mulberry catkins; by Steve Maslowski



Golden-winged warbler (Vermivora chrysoptera); by Steve Maslowski

Many woodland birds have short, broad wings and long tails for maneuverability as they fly through the dense tangle of vines and branches. The sharp-shinned hawk couples these adaptations with short bursts of speed, necessary to catch other birds, such as blue-jays, in flight.

With the first frost of autumn, migrants from the north pour through our Virginia for the last remaining fruit of summer. As the insects disappear, insect-eating birds migrate to those lush rainforests to the south. The foliage cover vanishes as leaves drop to the ground.

Only the most hardy birds remain during the winter as the leafy branches are transformed into skeletons of gray. Often in the winter, some trees seem to still have leaves at the topmost spires. In many instances, these leaves turn out to be a flock of hardy cedar waxwings, which have left their northern home for a more abundant food supply in the south.

Most of the other birds which spend winters in these forests are snuggled inside cavities during the long cold nights and the short winter days. With the return of longer days and warmer temperatures, new life springs in the forest and our forest birds return to a renewed green woodland. —J.V.

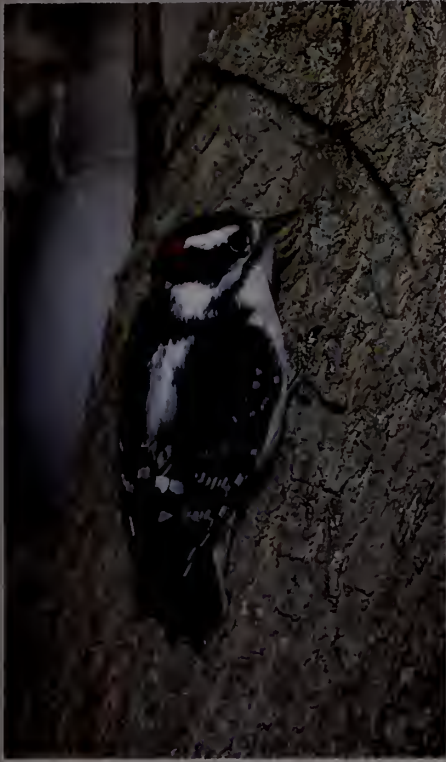


Wild turkey (*Meleagris gallopavo*); by Jerry Ferguson

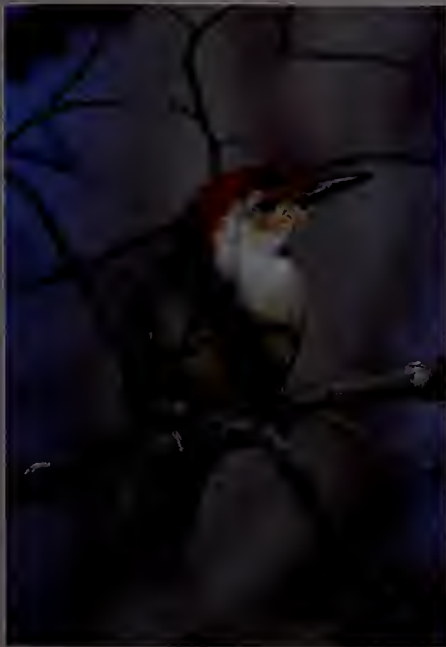
Wild turkey (*Meleagris gallopavo*) nest; by Karl Maslowski



Downy woodpecker (Picoides pubescens);
by Vinyard Brothers



Red-bellied woodpecker (Melanerpes carolinus);
by Vinyard Brothers



Sharp-shinned hawk (Accipiter striatus); by Charles W. Schwartz

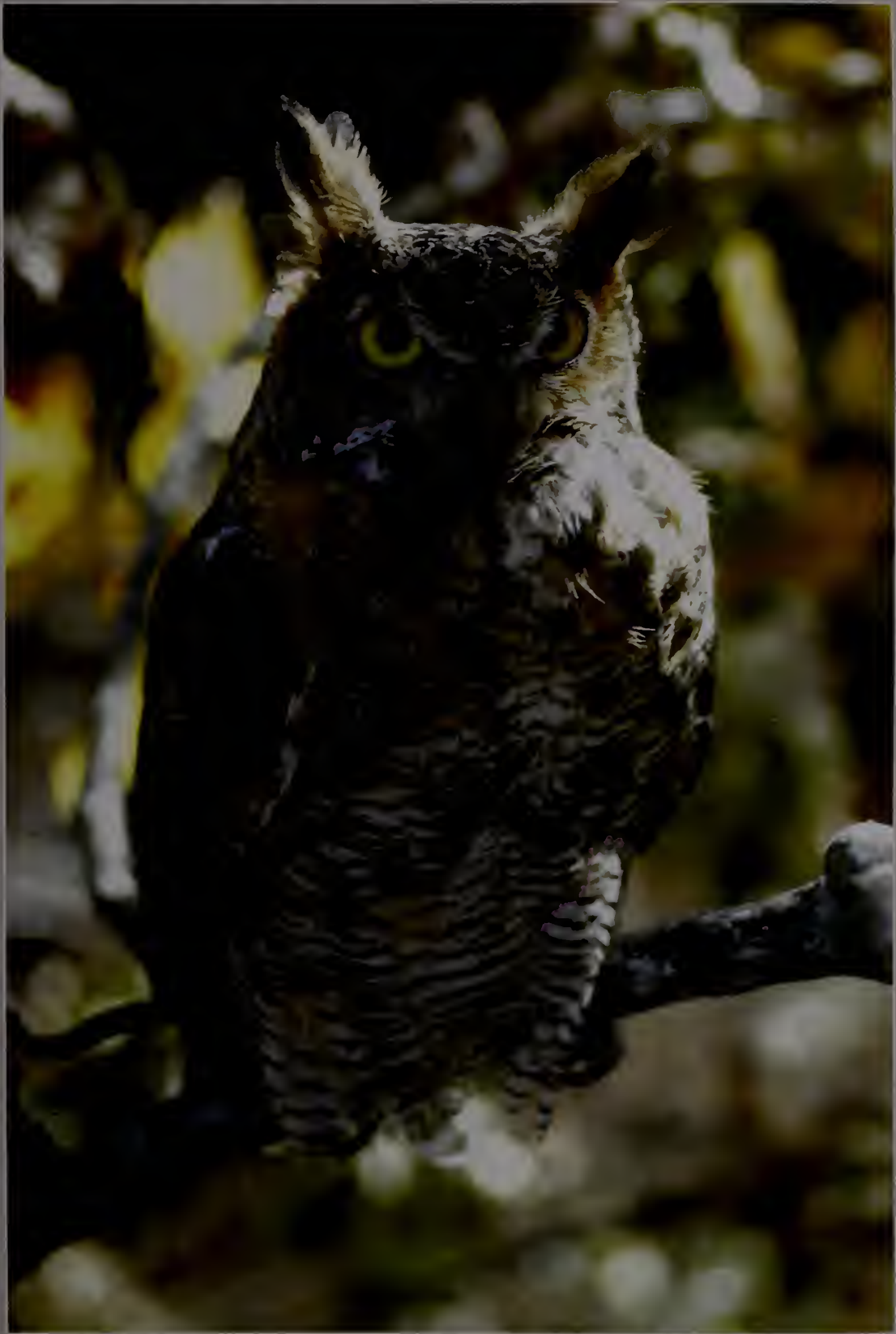
"...the Department of Game and Inland Fisheries should take a hand in the protection of our timber supply, because it is the legal guardian of the great army of faithful birds which constitute Nature's Forest Service."—*The Virginia Conservationist*, July 1921



Ruffed grouse (*Bonasa umbellus*); by Nell Bolen

White-breasted nuthatch (*Sitta carolinensis*); by Gregory Scott





Great horned owl (*Bubo virginianus*); by Charles W. Schwartz



Evergreens

Evergreens bring out the best and the worst in people. You'll find mild-mannered people cursing the lack of wildlife in acres of pines, and those who will gladly lay their lives down for a hemlock forest in order to keep a chainsaw crew out. You'll meet a few brave foresters who will try to explain the benefits of young pine stands for cover, food and nesting, and others who would rather see a subdivision than a few acres of pine.

For every voice disclaiming a pine tree, there is another worshipping it. That's because there's much more than a pine tree at the bottom of the issue. There is the hemlock ecosystem, the mature loblolly pine plantation, the young pines grown specifically for pulpwood. There is even that small stand of pines planted by wildlife managers expressly for food and cover. It's all very confusing.

It hasn't always been such a problem. Just 60 years ago, we believed we had all the answers. We knew that a bird's primary benefit to us was as an aerial pesticide. Birds destroyed countless numbers of insects threatening crops and forests. People had statistics on the number of boll weevils a single bird could consume in one day. Everyone loved songbirds.

On the other hand, we knew without a doubt that hawks destroyed our chickens, crows attacked bird nests and ate the eggs, that owls were having a devastating effect on grouse and quail and that loggerhead shrikes were ruthless murderers. We were sure that we could eradicate starlings, and that if we exterminated all predators, the number of prey would increase and we would have more grouse, turkeys and quail to hunt.

The problem is that around the 1940's we started learning new things. And the harder we looked, the more questions we found than answers, and things became rather uncomfortable. Nobody could tell us the truth anymore.

Now we're just beginning to understand our forests, believe it or not. Some people will turn their backs on a stand of pine, defiantly stating that absolutely nothing lives there. But on a closer look, you might find some overturned needles close to the trunk where a turkey has been scratching. We've found how much birds can change and yet seem rigidly specialized. Why, look at a crossbill with a specially adapted beak for extracting seeds from pine cones, and then at woodpeckers that have left the trunks of rotting hemlocks for the fresh birdseed of a backyard feeder. Puzzling things are happening. The picture on the following page shows a pair of golden-crowned kinglets, but the picture wasn't taken in a spruce forest, but on an offshore trawler, where the birds had stopped to rest before journeying on.

And we're finding out that once we clear a piece of land, we may not be able to regenerate what was there before, so we have to think hard before we cut, in case we end up regretting the decision. Some people are even suggesting that we won't ever be able to regenerate those 450-year old hemlock stands because that ecosystem is simply too complex to duplicate. Who knows? We're just beginning to understand the significance of those remnants of spruce forests in Virginia that were left from the last Ice Age. Just beginning to understand the animals that live in them, and how they are interacting with other species in the adjoining habitats. Are those silent places of big trees and rocky streams simply isolated refuges now, full of creatures doomed to grow old and die, since there are no corridors for dispersal which would keep populations dynamic with new immigrants passing through from other spruce forests? Will those specialized species be swallowed up by the generalists who are better able to compete for space and resources? And, if they are, is that necessarily a bad thing?

So many questions. And yet, when you walk through a massive hemlock forest in the quiet, it all seems so simple. A few birds singing, a single nest on a bough along the trail, a grouse drumming. Simplicity is deceiving. Maybe that's the only truth we know.—V.T.S.

There are few bird songs in a mature evergreen forest because its uniform structure and low diversity of food attract few birds. Birds which do live here are, however, specialists with adaptations for survival. The seeds of pines, spruces and hemlocks are locked away inside the cones which are only accessible to such birds as the red crossbill. Other available food includes insects which are resistant to the tar and resins of conifers. Those insects which feed on branches and needles are removed with the tweezer-like beaks of warblers such as the blackburnian, while the insects which bore into the wood are excavated by the chisel-like bills of the woodpeckers. Highland areas of southwest Virginia are home for the red spruce and fraser fir forests. These areas are typical of forests at more northern latitudes, and as a result they provide breeding habitat for birds which are also typically northern species, such as the golden-crowned kinglet, the veery, and the red-breasted nuthatch. Other upland areas vary from dry pine-covered slopes to moist hemlock ravens. To the east in the Piedmont and coastal plain, pine forests stretch for miles.

Birds seek out evergreen stands as a refuge from the winter blasts. Owls also visit these areas, not so much for food, but to escape detection by daytime foes such as crows, by hiding under the canopy of green boughs.

The most serious threat to birds in evergreen forests is the economic value of the spruce, firs and especially pines. As the pines are harvested, specialized birds endemic to these areas begin to disappear. On the other hand, upland pine forests have little commercial value and the spruce and fir forests of Virginia are protected.—J.V.



Red crossbill (*Loxia curvirostra*) opening hemlock cone; by Karl Maslowski



Golden-crowned kinglets (*Regulus satrapa*) on offshore trawler; by J.A. Musick

Opposite: Veery (*Catharus fuscescens*); by Karl Maslowski



